

Patent Claims

*What is claimed is:*

1. A curtain wall having a front side and a back side, said curtain wall comprising:
  - at least one mullion comprising at least one glazing pocket, an I-section for supporting a first trim member and at least one protrusion for supporting a second trim member;
  - at least one first rail having a width greater than a width of said at least one glazing pocket, comprising at least one notch for insertion into said at least one glazing pocket and at least one protrusion for supporting third and fourth trim members;
  - at least one bead comprising at least one protrusion thereon, connected to said at least one mullion in a lengthwise direction thereof, and supporting said first trim member;
  - at least one first retainer for removably retaining a glazing infill component against one said at least one mullion, each said at least one first retainer insertable into a notch in said at least one mullion; and
  - at least one second retainer for removably retaining said glazing infill component against one said at least one bead, each said at least one second retainer insertable into a notch in said at least one bead,  
wherein said glazing infill component may be installed from either said front side or said back side of said curtain wall.
2. The curtain wall according to claim 1, wherein said at least one glazing pocket, said I-section, and said at least one notch and said at least one protrusion on said at least one mullion extend substantially along a length of said at least one mullion, said at least one protrusion on said at least one first rail extend substantially along a length of said at least one first rail, and said at least one notch and said at least one protrusion on said at least one bead extend substantially along a length of said at least one bead.
3. The curtain wall according to claim 1, wherein said at least one mullion further comprises a hollow section having first and second walls, adjacent said I-section and extending substantially along a length of said at least one mullion.

4. The curtain wall according to claim 1, wherein said at least one mullion further comprises at least one ridge for engaging said at least one bead.
5. The curtain wall according to claim 1, further comprising a seal for sealing an area between edges of said at least one first rail substantially adjacent said at least one mullion.
6. The curtain wall according to claim 1, wherein said first trim member comprises at least one extension for contiguously engaging at least one surface on said I-section.
7. The curtain wall according to claim 1, wherein said first trim member comprises at least one engagement section having at least one retention tongue for removably connecting said first trim member to said at least one protrusion on said at least one bead.
8. The curtain wall according to claim 1, wherein said second trim member comprises at least one engagement section having at least one retention tongue for removably connecting said second trim member to said at least one protrusion on said at least one mullion.
9. The curtain wall according to claim 1, wherein said at least one protrusion on said at least one mullion comprises a narrow shaft section and an enlarged head section.
10. The curtain wall according to claim 1, further comprising at least one retention member disposed on at least one said at least one protrusion on said at least one mullion, said at least one first rail or said at least one bead.
11. The curtain wall according to claim 1, wherein said at least one first rail is mounted substantially orthogonal to said at least one mullion.
12. The curtain wall according to claim 1, wherein said at least one first rail is mounted at an angle to said at least one mullion.

13. The curtain wall according to claim 1, further comprising at least one third retainer for removably retaining said glazing infill component against one said at least one first rail, each said at least one third retainer insertable into a notch in said at least one first rail.
14. The curtain wall according to claim 1, wherein said at least one first rail is mounted to said at least one mullion by at least one screw.
15. The curtain wall according to claim 1, wherein said third trim member comprises at least one engagement section having at least one retention tongue for removably connecting said third trim member to said at least one protrusion on said at least one first rail.
16. The curtain wall according to claim 1, wherein said fourth trim member comprises at least one engagement section having at least one retention tongue for removably connecting said fourth trim member to said at least one protrusion on said at least one first rail.
17. The curtain wall according to claim 1, further comprising at least one other bead connected to said at least one first rail, in a lengthwise direction thereof, and having at least one protrusion for supporting said fourth trim member.
18. The curtain wall according to claim 17, wherein said at least one other bead is connectable to said at least one first rail by insertion of a protrusion on said at least one other bead into a catch on said at least one first rail.
19. The curtain wall according to claim 17, wherein said at least one first rail includes at least one threaded section for removably connecting said at least one other bead to said at least one first rail by a threaded fastener.
20. The curtain wall according to claim 1, further comprising at least one anchor adjustably mountable along a length of said at least one mullion.

21. The curtain wall according to claim 20, wherein said at least one anchor is adjustably mountable by a first guide which is slidably adjustable along a length of said at least one mullion and fixable adjacent said I-section.
22. The curtain wall according to claim 20, wherein said at least one anchor further comprises a first slot for permitting adjustment of said anchor in a direction orthogonal to a first surface on said at least one mullion and a second slot for permitting adjustment of said anchor in a direction orthogonal to a second surface on said at least one mullion, said first surface disposed substantially orthogonal to said second surface.
23. The curtain wall according to claim 21, wherein said at least one anchor further comprises a second guide for mounting said at least one anchor to said first guide.
24. The curtain wall according to claim 20, wherein said at least one anchor is mountable to a wall in a building by a bolt whose head is insertable into and slideable along a coupler pre-installed in the wall of the building.
25. The curtain wall according to claim 4, further comprising at least one second rail including at least one protrusion extending along a length thereof, and a catch engageable with said at least one ridge.
26. The curtain wall according to claim 13, further comprising at least one adapter including a protrusion and a notch, each extending along a length thereof, said protrusion being insertable into said notch in said at least one first rail, and said third retainer being insertable into said notch in said at least one adapter.
27. The curtain wall according to claim 1, wherein said at least one mullion, said at least one first rail, said at least one bead, and said first, second, third and fourth trim members are made of plastic, ceramic or metal.

28. The curtain wall according to claim 10, wherein said at least one retention member is made of plastic, ceramic or metal.
29. The curtain wall according to claim 17, wherein said at least one other bead is made of plastic, ceramic or metal.
30. The curtain wall according to claim 20, wherein said at least one anchor is made of plastic, ceramic or metal.
31. The curtain wall according to claim 25, wherein said at least one second rail is made of plastic, ceramic or metal.
32. The curtain wall according to claim 26, wherein said at least one adapter is made of plastic, ceramic or metal.
33. The curtain wall according to claim 13, further comprising:
  - at least one first corner-rail comprising at least one protrusion for supporting a fifth trim member, at least one notch for insertion of a fourth retainer, and an angled retainer;
  - at least one second corner-rail comprising a complementary angled retainer for engaging said angled retainer on said at least one first corner-rail, at least one protrusion for supporting a sixth trim member, at least one notch for insertion of a protrusion on an adapter having a protrusion and a notch, and at least one extension; and
  - at least one third corner-rail comprising at least one complementary extension for engagement with said at least one extension on said at least one second corner-rail, and at least one protrusion for supporting said sixth trim member.
34. The curtain wall according to claim 33, wherein said at least one second corner-rail further comprises at least one threaded section for removably connecting said at least one first corner-rail to said at least one second corner-rail by a threaded fastener.

35. The curtain wall according to claim 33, wherein said fifth trim member comprises at least one engagement section having at least one retention tongue for removably connecting said fifth trim member to said at least one protrusion on said at least one first corner-rail.
36. The curtain wall according to claim 33, wherein said sixth trim member comprises at least one engagement section having at least one retention tongue for removably connecting said sixth trim member to said at least one protrusion on said at least one second corner-rail and said at least one third corner-rail.
37. The curtain wall according to claim 33, wherein said at least one first corner-rail, said at least one second corner-rail and said at least one third corner-rail are made of plastic, ceramic or metal.
38. A method of installing a curtain wall having a front side and a back side, said method comprising the steps of:
  - connecting  
at least one mullion, comprising at least one glazing pocket, an I-section for supporting a first trim member and at least one protrusion for supporting a second trim member,  
to  
at least one first rail having a width greater than a width of said at least one glazing pocket and comprising at least one notch for insertion of said at least one first rail into said at least one glazing pocket and at least one protrusion for supporting third and fourth trim members,
  - by at least one fastener;
  - connecting at least one bead to said at least one mullion, in a lengthwise direction thereof by at least one fastener;
  - attaching said curtain wall to a building by an anchor;
  - inserting at least one first retainer into a notch in said at least one mullion to retain a glazing infill component against one said at least one mullion; and

inserting at least second retainer into a notch in said at least one bead to retain said glazing infill component against one said at least one bead,  
wherein said glazing infill component may be installed from either said front side or said back side of said curtain wall.

39. The method of claim 38, further comprising the step of mounting said at least one first rail substantially orthogonal to said at least one mullion.
40. The method of claim 38, further comprising the step of mounting said at least one first rail at an angle to said at least one mullion.
41. The method of claim 38, further comprising the step of inserting at least one third retainer into a notch in said at least one first rail to retain said glazing infill component against one said at least one first rail.
42. The method of claim 38, further comprising the step of sealing an area between edges of said at least one first rail substantially adjacent said at least one mullion.
43. The method of claim 38, further comprising the step of mounting at least one retention member on at least one said at least one protrusion on said at least one mullion, said at least one first rail, or at least one protrusion on said at least one bead.
44. The method of claim 38, further comprising the step of mounting said first and second trim members to said at least one mullion, and said third and fourth trim members to said at least one first rail.
45. The method of claim 38, further comprising the step of mounting at least one other bead to said at least one first rail, in a lengthwise direction thereof.
46. The method of claim 38, further comprising the step of mounting at least one anchor along a length of said at least one mullion.

47. The method of claim 38, further comprising the step of mounting at least one second rail along a length of said at least one mullion.

48. The method of claim 38, further comprising the step of mounting at least one adapter along a length of said at least one first rail.

49. The method of claim 41, further comprising the steps of:  
connecting

at least one first corner-rail comprising at least one protrusion for supporting a fifth trim member, at least one notch for insertion of a fourth retainer, and an angled retainer,

to

at least one second corner-rail comprising a complementary angled retainer for engaging said angled retainer on said at least one first corner-rail, at least one protrusion for supporting a sixth trim member, at least one notch for insertion of a protrusion on an adapter having a protrusion and a notch, and at least one extension; and further connecting said at least one second corner-rail to

at least one third corner-rail comprising at least one complementary extension for engagement with said at least one extension on said at least one second corner-rail, and at least one protrusion for supporting said sixth trim member.